PSYCHOLOGY.

AN ABREVIATION.

BY

V. H. BIDDISON, A. M.

AN INSTITUTE COURSE

—IN—

PSYCHOLOGY.

NINETEEN - LESSONS.

—BY—

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I MUST BE BRIEF.

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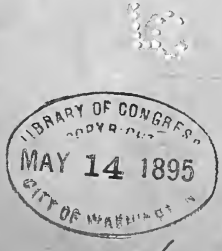

THIS book is dedicated to those who have found or may find it useful.

The Author.

PREFACE.

In my Teachers' Institute last year, I presented the subject of psychology by lectures, and while the examination papers on Theory and Practice (which is largely psychology) at the following examination showed improvement, the work was unsatisfactory, because the class was without text books, and I knew of none so inexpensive as to be within the reach of all, nor so brief and concise in definition as to be adapted to the brevity of time and the plane of the average student. So I have undertaken to prepare this course for my teacher-pupils in '92, and for such other demand as its merits may create.

The work on psychology must be academic. It cannot be of the normal type; it is *ab initio*.

My method is deductive, dogmatic. In truth, *the* method of the teacher is deductoni; by that method, the fool's school of experience is avoided and one generation begins where the last quit, and having learned the known, corrects errors and carries on further investigation by induction. I have not space to discuss; I assume. This "course" is merely a jointed skeleton of the subject; to it the living teacher must add the muscle of application, and the student, the fat of illustration.

I present little that is new; my hope is to excel in brevity and clearness of statement. I do not hope to be so clear as to be understood without thought, but so clear as to provoke thought. I wish to be so explicit that no thoughtful reader will misunderstand, even if he disagree, and so plain that just criticism may not be evaded by ambiguity of words or sentences.

If this plain, inexpensive treatment shall meet with the approval of Institute Instructors and help to popularize the study among the teachers of the state, it will have fulfilled the purpose for which it was written.

It has been prepared hurriedly in the office in the midst of other pressing duties. My indebtedness to Prof. Bowne in writing on the Intellect, and to Dr. Munsell on the Sensibility, is too great to be expressed by quotation marks. I wish, also, to acknowledge the valuable assistance of Jas. P. Easterly in editing the MS.

V. H. BIDDISON.

SUPERINTENDENT'S OFFICE.
Marysville, Kan., June 1, 1892.

PREFACE

TO

SECOND EDITION.

The demand justifies this second edition. One of our leading educators says, "It is altogether too elementary." That certainly justifies it. A college student tells me that when he wants to find what the two-volume work used by the class is trying to say he turns to this to find out. That justifies it. A teacher writes, "It aroused within me better purposes and ambitions." Surely that justifies it. "You have certainly given the teachers of Kansas a concise, complete and most valuable exposition of the principles of psychology applied to the teacher's work," writes an Institute Conductor. I have found it useful in my Institute work, so feeling that the first edition has filled its purpose, I issue this one believing that it is not only adapted to teacher's Institutes, but to High School courses of study.

I have made some changes in the text mostly in the interest of clearness and several quotations, so terse that I could not afford to omit them, have been added. One chapter has been divided and enlarged and a brief vocabulary added. The latter I have felt was necessary as a connecting link between this and more voluminous works.

V. H. B.

ELEMENTS OF PSYCHOLOGY.

LESSON I.

FUNDAMENTAL DEFINITIONS.

"I think, therefore I am."—*Descartes.*

PSYCHOLOGY is that department of science which treats of the mind, its acts, and the laws of its action and development.

MIND is that form of being which thinks, feels, and wills.

The existence of mind is so basal a fact as to be almost beyond proof, its existence being *implied* in every effort to prove it. Proof is only an effort to reach certainty, that is, knowledge, and is only applicable to those things of which we are not yet sure. Although the mind is unseen like oxygen, unheard like the rose, and unfelt like light, it is known by that subtle something called consciousness which is the essential element in the action of *all* the senses.

What mind *is* we know only by its acts, as we know what any other thing is. We know of the existence and nature of iron only by its acts. It reflects light—we say we see it. It tends powerfully to fall to the earth—we say it is heavy. It resists blows—we say it is hard. If it did not act upon us we would

not know of its existence and we have no idea of its nature or of the nature of any other form of being except the manner of its action. So of the mind, we know nothing but its existence and such ideas as we may form of its nature from its acts. What iron is apart from its acts, we know not. What mind is apart from its acts, we know not. Chalk is something (I know not what) that is white, light, soft, friable, brittle. Mind is something (I know not what) that is thoughtful, passionate, willful. The distinguishing acts of mind are thinking, feeling, and willing. The faculties, or powers by virtue of which it acts, are,

INTELLECT, the power by which we obtain knowledge and think;

SENSIBILITY, the power by which we feel;

WILL, the power by which we choose and act.

The mind is one, a unit. There are not three parts, but three powers of the mind. These powers are not independent; do not act or exist separately. The divisions are not in the mind or of the mind, but by the mind. In other words, the elements of mental action are abstractions and not, like chemical elements, capable of separate existence.

THINKING (and by this term I mean to include all forms of knowing) is scarcely definable, yet you know and I know what mental act is indicated by the word. Its elements are sensation and intuition.

SENSATION is the primary change in the state of the mind produced by an impression on an organ of sense.

INTUITION is the mind's power of originating in the presence of proper stimuli, such as

sensation, certain necessary ideas, and primitive judgments.

From the union of these two elements and their mental digestion is evolved the whole thought process.

———o———

LESSON II.

SENSATION AND INTUITION.

SENSATION is the first change in the state of the mind which is produced by an impression on an organ of sense; or it is the mind's reaction against the action of other things.

The impression is the action of the outer world on one of the five organs of sense, the eye, the ear, the nose, the tongue, or the skin, filled with the nerves of touch, by means of a ray of light, a sound wave, an odor, a soluble substance, or a resisting body. This impression is transferred by means of the nerve to the brain.

Neither the eye, nor the optic nerve, nor the brain itself sees, or has the sensation of sight. Neither does the mind know of any change in the eye, nor is it conscious of any change in the optic nerve, nor in fact of its existence, but the change is a change of its own state. *It* is in action. It becomes a *conscious* soul, but conscious *only* of its *own state.*

The second mental change (not in order of time, but logical order) is the act of intuition.

INTUITION is the mind's power of origina-

ting in the presence of proper stimuli, such as sensation, certain *necessary ideas* and *primitive truths*, or *judgments*. The *test* of intuition is *necessity;* that is, an idea to be classed as intuitive, and not derived from experience, must be necessary to all thought; an element without which sensation becomes meaningless, and the mind a blank on which the outer world would make impressions (sensations) that, like the letters of a school boy, are an alphabet, but spell nothing.

But the intuition brings forth its products; first, the—

NECESSARY IDEAS of (1) *being*, (2) *cause*, (3) *time*, (4) *space*, and (5) *number*. In the first sensation the mind, being acted upon and reacting, becomes conscious; conscious of two things, "self" and "not self;"* and accounts for the sensation (change in my state) by assigning "not self" as its cause. And the idea of space arises when "not self" (the cause of sensation) is located as not only not part of me, but as apart from me. And the idea of time arises with the beginning and ending of the sensation. A sensation is now, was then in progress. Three other ideas arise, (1) the *true*, (the real and unreal), (2)

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*The baby, new to earth and sky
What time his tender palm is pressed
Against the circle of the breast,
Has never thought that this is I.

But as he grows, he gathers much,
And learns the use of I and me,
And finds I am not what I see.
And other than the things I touch;

So rounds he to a separate mind,
From whence clear memory may begin.
As thro' the frame that binds him in,
His isolation grows defined.—*Tennyson.*

the *beautiful*, (the pleasing), and (3) the *good*, (right or wrong); and second—

The PRIMITIVE JUDGMENTS; these are—

I. *The Laws of Thought;* they are—

1. The law of identity.
   Anything whatever is exactly equal to itself; or, in other words, the whole is equal to the sum of its parts.
2. The law of contradiction.
   What is contradictory is unthinkable.
3. The law of excluded middle.
   If one of two contradictory attributes is affirmed, the other is by implication denied.
4. The law of reason.
   Every change has a cause.

II. *The Axioms of Mathematics;* they are—

1. Things equal to the same thing are equal to each other.
2. A straight line is the shortest distance between two points; etc.

III. *The Demands of Conscience;* they are—

1. I ought to do right.
2. I ought not to do wrong.

You will see that these "primitive judgments" are derived from the "necessary ideas" originating in the intuition. Some of them will seem meaningless to all save those who have studied logic or mathematics, because both the "ideas" and "judgments" are abstract. These do not all arise in the first sensation, and perhaps never *in this abstract form* except in the highly cultured or remarkably endowed mind.

LESSON III.

PERCEPTION.

The combination of sensation and intuition is perception, or knowing. Sensation is so nearly a passive state that it can scarcely be distinguished from feeling,* and so far as it is an act of knowledge, it is a knowledge of our own selves, not of the outer world, in process of change of state. The knowledge offered in intuition is decidedly mental and interior—is not of things, but of their relations. But in the combination of the two, the mind accounts for its sensation by picturing forth the outer world as the cause. It constructs the outer world in such form as to account for its various sensations. In this sense do we see that to account for the impressions made on our minds through the eye, we assume the existence of an object without, say a tree, if that best explains the individual character of the impression. We do not see the object *with the eye*, nor see the image of the object on the retina, which is reversed and inverted and double, but the mind sees by constructing in thought a rational cause for its sensations. As the magic lantern, by means of slides and a light, projects a picture which conforms to the nature of the scene upon the slide and is an

* Sensation contains the primal elements of feeling as well as of knowing, and is cause of both knowing and feeling.

interpretation of it; so the mind, by means of its sensations and the light of intuition, projects the outer world conforming to its sensations so as to account for them by assigning some object as their cause. This figure is as nearly a perfect illustration as a physical fact can be of a mental one. The process is the same with all the other senses.

"But we are not concious of this process," says one. Neither are we of the heart-beat, nor of breathing, nor of the existence of the liver, nor of its secreting bile, but examination reveals the facts. Neither are we conscious of the *process* of *acquired perception*, or perceiving, by using the knowledge given by one sense as the evidence of the knowledge which might be gained by another. "I go into a darkened room and perceive, by the sense of smell, the presence of a tuberose though I neither see nor touch it. I *look* at the white iron and say it is hot although heat is *felt*. A man strikes a barrel and says it is full or empty. A surgeon by the sense of hearing perceives the condition of his patient's lungs." We judge distance by size in adult life, but the child reaches out for the moon just as for his ball. We judge of size also by assumed distance and thus perceive men at a distance as men although sight reveals them as boys in stature. Likewise we judge of distance by intensity of color or distinctness of outline. For illustration, distances are very deceptive to persons going from a moist climate to one having a clearer atmosphere, because outline and color are more distinct than the person is accustomed to associate with similar distances.

We have *sensations* formed by one half of

the surface of an orange, but we *perceive* an entire orange, the body, taste, and odor as well as the surface. But acquired perceptions are not direct; they are based on previous experiences and the exercise of the higher powers of memory and judgment. Their value to us is immeasurable.

Unless sensations are clear, that is, the organs of sense are in perfect condition and the sensation has attention, the perception cannot be perfect, and if it is not, no resulting mental process can be clear, vivid, and reliable. Sensation and perception usually occur at the same instant, but not always. When absorbed in study one may only perceive, when some one speaks (the ear undoubtedly being affected), that something has occurred, or that some one is present, or spoke, or who spoke, or what was said. These various perceptions may be in the same instant as the sensation, or the cause of the sensation may not be perceived till the attention is released from the subject under consideration.

PERCEPTION is the act of assigning a cause for sensation.

LESSON IV.

MEMORY.

"The great Keeper, or Master of the Rolls, of the soul. A power that can make amends for the speed of time, in causing him to leave behind those things which else he would carry away as if they had not been."—*Bishop Hall.*

MEMORY is the mind's power of reproducing its former intellectual states and recognizing them as having been part of former experience. Intellectual states are not things, but acts, and are *not retained*, but *reproduced*. They are not *stored* or *kept*, but *recreated*.

"Except in a figurative sense, the past is not in the mind at all. Our possession of a knowledge of which we are not conscious, means only that we can reproduce that knowledge on occasion. Reproduction in no way brings back the old fact. The particular experience as a mental fact vanishes forever. What remains is the ability to perform anew the ancient function."* That which is reproduced is purely an intellectual state. It is not a state of feeling or an act of will, but an intellectual state which preceded or followed that state of feeling or act of will which is reproduced. Not the emotion, but the knowledge of it returns though the returning knowledge of it may cause its return in a diminished degree. The renewed emotion is not an act of memory, but a result of the act of memory.

* Bowne's "Psychological Theory."

LESSON V.

MEMORY STIMULI.

What causes us to remember?

What stimuli can cause the mind to reproduce its former acts of perception and thought?

I. The repetition of part of a previous mental act stimulates the mind to complete the entire act. This condition may be brought about by—

1. The presence of the cause of the original act.

2. A revival of similar or associated intellectual states; that is, states having some of the same elements, by means of objects similar to, or associated with those which caused the original mental act. One of the most potent causes of such revival is language.

3. A revival, from any cause, of acts of emotion or volition, which were associated with the original intellectual act.

II. An act of the will may produce the same result, which is quite common and is most applicable when one desires to recall an object of a certain class or of a well ordered series. In these cases the will causes the intellect to complete its former thought series. In many cases we cannot see that the will operates through this first law.

The outer causes of these mental states, which stimulate the mind to re-perform its

former acts, are *resemblances* and *contrasts* between objects now present, and the causes of former states, and *contiguity in time or space*, and the relation of *cause* and *effect* between the same objects. All of these operate through the first law. Even contrast means that the objects belong to the same class; i. e., have the same essential elements, but differ in detail; so one object of the contrasted pair contains most of the elements in the other, and the mind having been caused to perform most of the former act, completes it.

As to size, form, color, and weight, let

a represent an object,	A another;
b time when seen,	B another time;
c a cause,	C its affect;
d place where seen,	D another place;
e associated emotion,	
E same emotion from other cause;	
f associated volition,	
F same volition from other cause.	

Their combinations represent complex mental states or acts, as:

1. *a b c d*
2. A *b c d*
3. *a* B *c d*
4. A B C *d*
5. A B C D
6. A B C D *e f*
7. A B C D E F

Number 1 is an original sensation or thought. Later, I have the experience Number 3 and in it the elements, except time, are the same as in Number 1, and having thought the common elements *a b c*, the mind is stimulated to complete the series of Number 1, and thinks the full thought *a b c d*.

So, in the future, Number 2 may remind me of Number 1, because the two objects were seen at the same time or had the

same causative power *c* and were seen at the same place *d*.

So, Number 5 may remind me of Number 1, though not containing the same elements, by means of an intermediate term; for instance. though the colors of *a* and A are different. A's color sets the mind to rehearsing colors, and when the color of *a* is reached, the mind not only recalls the *color a*, but with it *b c d*.

So, Number 4 causes the mind to recall Number 3, because in our experience C has been associated with *c* as its effect; but when C has caused the mind to think *c* again, *c* causes us to think all of Number 3, or 2, or 1.

So flows the never ending stream of thought. And thought becomes more surely reproducible by noting its elements and the surroundings it has in common with other thoughts.

THE secret of memory is *a sense*, at the time of the original act, *of the importance of the thought to be reproduced;* that is, to see its import for our being, welfare, and destiny. This results in close *attention;* not only seeing a whole, but perceiving the parts that are common to other wholes; and *systematic thought;* seeing an object not as alone, but as part of a series or system. It is not enough to see things, but to see them in their natural order and relations. Memory of recent events, as a rule, fails in age, while early scenes remain fresh, because the old man feels that life is nearly over and his surroundings are neither new, pleasurable, nor important and therefore do not command attention or thought. While those who think themselves dying, recall with wonderful vividness every word, thought, or deed of moral import because they feel that eternity depends upon these things.

Do not try to make the mind a library.

Do not try to remember anything unimportant.

Do not try to make the mind a "charnel house of dead thoughts."

Take time to rehearse and review those things that should be remembered; review *not by re-seeing* or *re-reading;* but first take so little that the mind can without difficulty reproduce it, and then review *from memory;* then add a little and review again, and so on. There is scarcely a limit to the development of the memory by this plan, if one is willing to go slowly and steadily, but one cannot afford to give a life time to the development of one power, nor to preserve the past, unless it is used. One of heaven's chief blessings is the power to forget the unimportant and trifling events of life.

Do not burden the memory with any unnecessary thing; nor develop it as a show-power; but for things necessary, give it absolute confidence and trust in its testimony because you conform to the laws of its action.

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LESSON VI.

IMAGINATION.

"And as imagination bodies forth
The form of things unknown; the poet's pen
Turns them to shapes, and gives to nothing
A local habitation and a name."

Without guessing, science would be impossible,—*Lewes.*

IMAGINATION is the mind's power to re-arrange the mental states or their elements when reproduced by memory.

Imagination has nothing new in it but order. All of the material is furnished by the real experiences of life. But the imagination varies the elements of shape, size, form, color, causative power, etc. Under its influence all relations may change; that which in experience was above, is placed below; the inside becomes the outside; the old, new; the first, last. All the limitations of time, space, and cause; all the relations of truth, beauty, and goodness change, as the position of the colored glass changes in the kaleidoscope. And whether this wondrous power shall make of its possessor a philosopher, an inventor, a poet, a painter, a sculptor, a happy man or sad one, a good one or bad one, a dreamer or a fool, depends, first, on the thoughts furnished it; secondly, on the power controlling it.

If directed by the will into systematic action, by the conscience unto a righteous end, by the reason into real and possible combinations, in the commonest life it may find colors to rival the rainbow and furnish the mind with flowers more beautiful than ever bloomed on earthly soil; it may find theories and hypotheses in the fall of an apple that shall account for the revolution and support of worlds; or it may, by changing the position of the almost powerless kettle's lid, lay the foundation for the utilization of powers that shall, unwearied, move the commerce of the world; it may picture to the mind of the orator, poet, painter, or sculptor, such ideals as have never been expressed in words, placed on canvas, or wrought in stone. To every occupation, it holds forth a higher possibility; to every life, a higher ideal.

But, if uncontrolled, it makes the imprac-

ticable dreamer the wild theorist and visionary. If it is the slave of the passions and appetites and is fed with obscenity, it will sink its possessor to the level of the beast; and if directed by selfish desires and uncontrolled by conscience, its devices for gaining wealth, power, and place, will make the possessor the scourge of the race, the accursed of God.

———o———

LESSON VII.

CONCEPTION.

"E pluribus unum."

CONCEPTION is the power of the mind to form general, or representative ideas or terms.

General ideas are such as represent not single percepts, but groups of percepts.

It is the algebra of the soul.

It is the wholesale department of thought.

It is the fountain of language.

It is the grouping of similar percepts.

Its best physical representation is the composite photograph.

There are two processes of forming concepts, or general ideas; the primitive one is used on occasion of first experiences, especially in childhood. The first experience is made to stand for all future experiences of the same or similar kind. The other process, more complex and accurate, is used by the experienced and trained mind. It consists in a recall of past experience by memory and—

1. Comparison;
2. Abstraction;

3. Generalization.

Comparison is the act of giving attention to two or more objects for the purpose of noting their relations; i. e., likeness and unlikeness, etc.

Abstraction is the act of withdrawing the mind's activity from the elements constituting the individuality (the distinguishing qualities) of the percepts (objects) so the attention is centered upon the elements common to the several percepts.

Generalization is the act of using the abstract as a symbol of the concrete; or, using the common elements in a series of percepts to represent the individual percepts.

This process is called conception; its product, the "symbol" of the above definition, is a *concept* or *notion*. It is not a mental image, or picture, but represents a class of objects. as x in algebra represents a class of objects whose number and quantity are yet unknown, or undetermined The object of the process is to handle many percepts in one, and thus abbreviate the thought process; for instance, instead of saying "Friend Tom, friend John, friend Dick, friend Harry, and friend Will went with me," I say, "Five friends went with me."

It not only accelerates thought, but makes it more exact and clear; for if the mind had to rehearse the individuals represented by every concept, the main thought would be lost before the mind completed the rehearsal of large classes. By this process we throw out all the elements irrelevant to the conclusion, retaining only those essential to the purpose in view. It may be truly said of the concepts, as it is said of the composite photo-

graph, that it represents no one exactly, as its outlines are shadowy, but it shows what is essential, or common, to the group. It is a kind of average individual.

While all concepts imply the process of abstraction, they may be classed as abstract and concrete.

A CONCRETE CONCEPT is applied to a class of material objects; as, man.

An ABSTRACT CONCEPT represents a thought object having no separate or independent existence; as, manhood, whiteness, sensation, perception, etc.

In applying the notion, or concept to the individual, the mind declares the individual to be described by, or not to be described by, the concept. This is classification: dividing the individual percepts or their causes by judging their agreement or disagreement with the concept. Classification is very crude among savages and children. The natives of one of the Pacific islands classed goats as hogs, calling them "horned hogs," and horses as "dogs." Most people still class whales as fishes.

Let us illustrate the formation of concepts and classes:—I see our sorrel pony, Gyp; a dapple-gray draft horse, Carl; a bay track horse, Sunol; a white Arabian steed, Slick. The mind considers certain elements that belong to all these animals and represents this concept by the term *horse* and uses the term horses to represent all of them, although the concept is not of a sorrel, gray, bay, or white horse, nor of a pony, or a draft horse, a track horse, or an Arabian horse.

Besides the horses, I see, also, dogs, cats, cattle, etc., and form a new concept *quadru-*

ped, representing more individuals with less in common.

I see, also, other objects, such as fishes reptiles, etc., and form a greater concept represented by the word *vertebrates*.

With these objects, I place trees and plants, forming the higher concept *living things*, or *animate objects*. To these add the inanimate world and speak of the almost unlimited concept *being*, which includes all existence and represents the only element common to all,—action. Thus "out of many" the mind makes "one," and in one word and one thought, can mentally handle the universe, having reduced the universe of thought to unity.

This process is generalized thus:

Percepts
- *ab* (*iron*), *abc* (*lead*), *abcd* (*copper*) → Concept *ab* (*minerals*)
- *cb* (*tree*), *cbd* (*potato*), *cbn* (*moss*) → Concept *cb* (*vegetables*)
- *gb* (*bird*), *gba* (*fish*), *gbr* (*beast*) → Concept *gb* (*animals*)
- *fb* (*God*), *fbc* (*angel*), *fbcd* (*man*) → Concept *fb* (*spirits*)

Concept *b* (*being*)

DEFINITION is the act of so describing anything that another may surely know it. To this end the description should give, *first*, the class to which the object belongs; i. e., the essential attributes, or the concept of which it is a part; *second*, the characteristics which distinguish its species from the other species composing the class; *third*, the peculiarities which mark its individuality; i. e., distinguish it from others of its species.

I. A definition must not contain the term defined.

II. A definition must not contain obscure, figurative, or ambiguous terms.

III. A definition should not be negative.

LESSON VIII.

JUDGMENT.

JUDGMENT is the act of affirming or denying the identity of two percepts or concepts, or the inclusion of a percept by a concept, after comparing the one with the other.

A PROPOSITION is a judgment expressed in words.

Whether a proposition affirms or denies identity, it invariably declares that one percept or concept is equal to or part of the other, and is an act of classification. If I affirm that, "All men are mortal," I declare "all men" to belong to and be part of the class "mortals." If I deny identity by saying that, "All men are not mortal," I affirm nothing less than that, "Some men belong to the class of not-mortals, or immortals." If I say, "The man is guilty," I practically affirm that, "the man" belongs to or is part of the class "guilty men."

In a judgment there are always *two* and *only two ideas* (percepts or concepts) *compared;* one represented by the subject, the other by the predicate of the proposition.

The names of the ideas are known as *terms*, and are classed as *singular* and *general;* the

former being the names of single things; the latter, the names common to many things; that is, class names.

The name of many things regarded as a unit is a *collective term.*

The names of objects are called *concrete terms;* the names of qualities, *abstract terms.*

Terms which express existence of qualities are *positive.* Terms which express absence of qualities are *negative.* These classes are not exclusive.

There are three classes of propositions:

I. CATEGORICAL, in which the judgment is positively affirmed or denied; as, He will speak.

II. HYPOTHETICAL, in which it is conditionally affirmed or denied; as, He will speak if—. And

III. DISJUNCTIVE, in which the judgment suspends determination between two or more alternatives; as, He will speak or sing.

Categorical propositions are classified as not only affirmative and negative, but also as universal and particular. If the proposition affirms the predicate to belong to all of the subject, it is *universal;* as, "All metals are elements." But if we say, "Some metals are brittle," the quality is affirmed of only an indefinite portion of the metals. Such propositions are *particular.*

The signs of universality are *all*, *every*, *each*, *any*, *the whole*, etc. The signs of particular propositions are *some*, *certain*, *most*, *many*, *a few*, etc.; but these signs are not always present.

No, *not*, and *none* are negative signs.

When a proposition affirms or denies some-

thing of the *whole* of one of its terms, *that term* is said to be DISTRIBUTED.

Hence there are four kinds of propositions:

Proposition { Universal { Affirmative *A* / Negative *E* } / Particular { Affirmative *I* / Negative *O* }

	Subject	Predicate
A—Distributed		Undistributed.
E—Distributed		Distributed.
I—Undistributed		Undistributed.
O—Undistributed		Distributed.

A. All studies are practical.

E. No study is practical.

I. Some studies are practical.

O. Some studies are not practical.

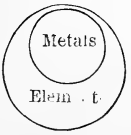
In the judgment *A*, it is implied that *O* is false, and *vice versa;* in *E*, that *I* is false, and *vice versa*. If either *A* or *E* is true, the other must be false; both may be false. *I* and *O* may both be true; but if either one is false, the other must be true. If *A* or *E* is true, *I* or *O* must be true. If *I* or *O* is false, *A* or *E* is also false.

This process of conclusion is called *implied judgment.*

Good or true judgment is the foundation of sound reason.

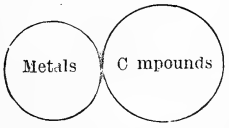
These classes are represented by the inclusion or exclusion of the following figures:

A

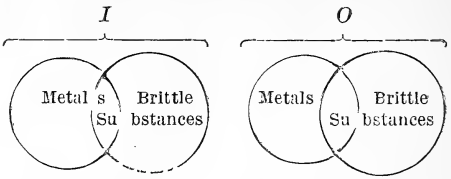


All Metals are Elements.

E



No Metals are Compounds.



Some Metals are Brittle Substances.

Some Metals are not Brittle Substances.

———o———

LESSON IX.

REASON.

Reasoning is the same process as perception, with this difference: perception is inferential respecting objects *present* and reasoning is inferential respecting objects *absent.—Lewes.*

REASONING is the act of inferring an unknown proposition by comparing two known propositions having a common term;—or, it is the process of forming a judjment of the relation of two percepts or concepts, or a percept and a concept by comparing each with a third; as, $a=x$; $b=x$; therefore $a=b$.

The SYLLOGISM is the ideal form of reasoning. When not expressed, it is implied. It consists of three propositions, or judgments, called the Major Premise, the Minor Premise, and the Conclusion.

THE CONCLUSION is the inferred proposition.

The Minor Term is the subject of the conclusion.

The Major Term is the predicate of the conclusion.

The Middle Term is the one common to both premises. With it each of the others is compared.

The Major Premise contains the major term.

The Minor Premise contains the minor term.

In the algebraic illustration above, a is the subject of the proposition $a=b$, which expresses the conclusion and is, therefore, the minor term; and b, the predicate, is the major term; x, with which each is compared, is the middle term; and $a=x$ and $b=x$ are respectively the minor and major premises because they contain respectively the minor term a and the major b.

Logic is the science which treats of the laws of reason. It is of the same value to correct thinking that Physiology is to correct living. Both studies have their origin in depraved action, mental or physical. Logic is valuable in proportion as mistakes in drawing conclusions are common. The syllogism is unnecessary in thinking in familiar lines, as a map is needless in traveling well known roads. So, one of the premises is often omitted. This form is called an Enthymeme. For example: "Socrates is a man; therefore, Socrates must die." Often neither premise is stated and the conclusion stands alone. But when investigation begins and the frontiers and fundamentals of science are to be explored, the formal and definite statements of the syllogism make the detection of error much easier, and the resulting conclusion more accurate.

LESSON X.

REASON, INDUCTIVE AND DEDUCTIVE.

O God, I think thy great thoughts after th e.—*Kepler.*
But reason can only give us probability, not certainty.—*James Freeman Clarke.*

The process of reasoning begins with analogy.

ANALOGY is the judgment that what is true of some things is true of another similar thing.

A child expects today what he had yesterday. If one person gives him a penny, he expects the next one to do so, until he discovers that all persons are not alike or similar. He expects his sled to run down hill till he finds that the surface of a bare hill is not like that of a snow covered hill. But with the passing years, he learns to presume from his experiences that *like causes and conditions produce like results;* or, in other words, that *nature is uniform;* for the seeming exceptions to the rule have mostly been explained, and he judges the others will be. With this great proposition he places others and reasons in this wise: For twenty years the sun has risen every twenty-four hours. Nature is uniform in her action. Therefore the sun will rise every twenty-four hours hereafter. This definite form of analogy is called *induction.*

INDUCTION is the act of deriving general laws from individual cases;—or, it is the act of judging, or concluding that what is true of the cases examined, is true of all similar cases.

It is *the* method of discovery. While the process is the common property of the race, it was formulated by Lord Bacon. The certainty of the conclusion is proportionate to the number of particular cases examined. "One swallow does not make a summer." Its conclusions are *absolutely* sure only when absolutely useless; that is, when every case has been examined. Its value is in the power to determine the *probabilities* in the unexamined cases.

DEDUCTION is the act of judging that what is true of the class, is true of the individuals composing it;—or, of inferring the particular case from the general law.

It is *the* method of instruction and application. While this process is also the common property of the race, it was formulated by Aristotle. The process is dependent for the accuracy of its conclusions, on the induction which furnishes its premises. It now appears that the act by which the mind passes in all reasoning from the known premises to the unknown conclusion, is not only an act of judgment, but essentially an act of FAITH.*

"The distinguishing characteristic of science is its graduated method of verification, and not as some think the employment of induction in lieu of deduction. All science is deductive and deductive in proportion to its separation from ordinary knowledge."

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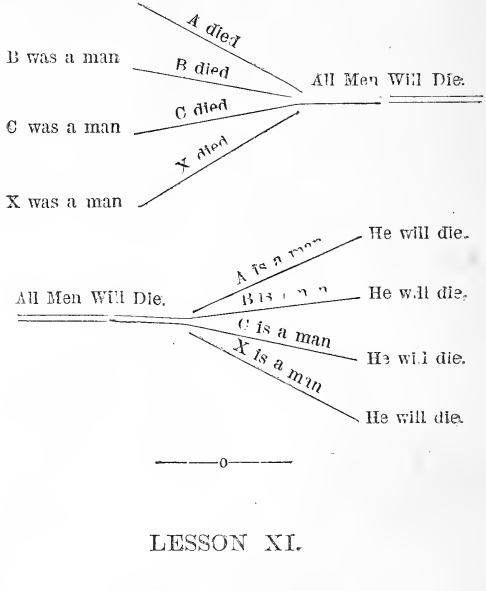
*"Induction rests upon the assumption,—as it demands for its ground,—that a personal or a thinking Deity exists," and "that the rational methods of the Divine and human intellect must be the same."—*Dr. Porter.*

Philosophy proceeds upon a system of credit.—*Thompson.*

To find new land we must quit sight of land.—*Lewes.*

The following diagram represents the relations of the two processes of reasoning:



LESSON XI.

REASON, FALLACIES.

Reasoning is inferential about objects formerly given in sensation but now absent. It is the presentation in consciousness of objects, which, if actually present, would affect the consciousness in a similar way. * * * Bad reasoning will always be found to depend on some of the objects not being mentally present (realized.)—*Lewes.*

Fallacies are violations of the laws of reason. The Laws of Induction are: "(1.) If, in all cases of an effect or phenomenon, one condition is uniformly present, that is the cause or includes the cause of such phenomenon.

(2.) If, in every instance in which an effect does occur, one single condition is present, which is uniformly absent whenever such effect does not occur, this constantly present or absent condition is presumed to be its cause. (3.) If, whenever an effect or phenomenon is marked with peculiar energy, any condition varies with proportional intensity, this varying condition is the cause of such an effect."

The basic idea of all these rules is that Induction must be made not from few, but many instances. In taking a large number of cases one will probably meet all the conditions represented in the three laws and thus reach the truth. THE fallacy of Induction is concluding that "*One swallow makes a summer.*" The following illustrates:

A quack is said to have had a patient who, against orders, ate a large quantity of raw cabbage and recovered. The quack wrote in his note book, "Cabbage cures typhoid fever." He recommended cabbage to his next typhoid patient who was a Yankee and he died, so he wrote in his diary, "Cabbage cures Frenchmen (his first patient was French) and kills Yankees."

The Fallacies of Deduction are violations of the Laws of the Syllogism. The laws are:

(I.) Every syllogism has three, and only three, terms.

(II.) Every syllogism has three, and only three propositions.

(III.) The middle term must be distributed once at least, and must not be ambiguous.

(IV.) No term must be distributed in the conclusion, which was not distributed in one of the premises.

(V.) From two negative premises, no conclusion can be drawn.

(VI.) From two particular premises, no conclusion can be drawn.

(VII.) If one premise be negative or particular, the conclusion must also be negative or particular.

Violations of these laws are called Logical Fallacies.

Another class is called Material Fallacies. They are seven in number:

1. *The Fallacy of Accidental Attributes.*
2. *The Converse Fallacy of Accidental Attributes.*
3. *The Irrelevant Conclusion.*
4. *The Petitio Principii.*
5. *The Fallacy of The Consequent.*
6. *The False Cause.*
7. *The Fallacy of Many Questions.*

They are illustrated by the following examples:

1. What you bought yesterday, you eat today; you bought raw meat yesterday; therefore, you eat raw meat today.

2. Wine used in excess is a poison; what is once a poison, is always a poison; therefore, wine is always a poison.

3. The plaintiff's cause is just, but his attorney is mean; therefore, the defendant should be acquitted. This is called the *argumentum ad hominem* or *populum*, and is an appeal to prejudice, not reason.

4. A moving body must be moving in the place where it is or where it is not; it cannot be where it is not, and if it moves it cannot be where it is; therefore, motion is impossible. Here it is assumed that it cannot move from where it is to where a mo-

ment ago it was not. This is called begging the question.

5. Alfred the Great was a scholar, for he founded the University of Oxford. This is a conclusion that does not follow from the premises, and amounts to a simple assertion of the conclusion.

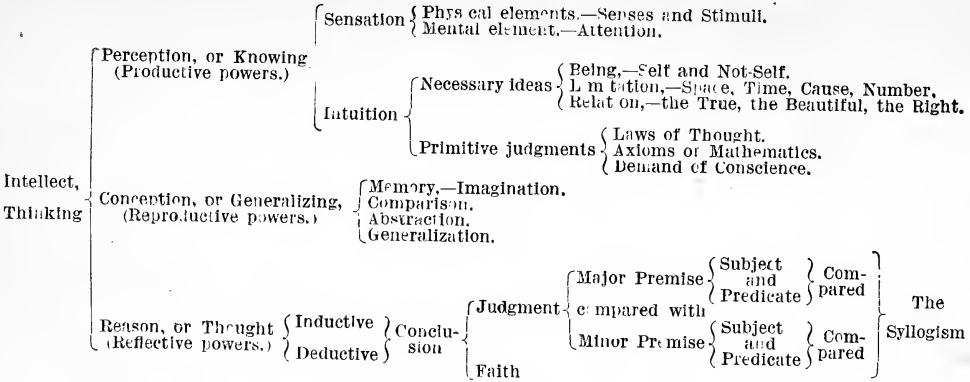
6. Night follows day; an effect follows a cause; therefore, night is the effect of day.

7. Many questions will not all have the same answer, and you cannot overthrow an argument by asking, "Have you left off beating your mother?"

The most common fallacy is the use of a term with two meanings in the same syllogism or with a different meaning in the minds of the speaker and hearer or writer and reader.

It is not the term or word which is important, but the meaning or idea it represents.

LESSON XII.—REVIEW OF INTELLECTUAL POWERS.



SUGGESTION:—Review by definition and written illustration from each member of the class. Illustrations to be filed for future grading. If time permit, give brief consideration to other systems of classification, etc.

LESSON XIII.

SENSIBILITY,—EMOTIONS.

The words Sensibility and Feelings, in the broadest sense of the term, are equivalent.

Prof. Bowne says, "No definition of Feeling can be given. We can only identify and name it. * * We might, then, define feeling as that state of consciousness which consists in some form of pleasure or pain, like or dislike, satisfaction or dissatisfaction. Of course this is not a definition, but only an identification. What the terms mean can be known only in experience."

Sensation contains not only the primal element of the higher intellectual activity, but also of the mental acts known as acts of the sensibility. It is not only an act of knowledge, but also of feeling.

Sensation, intuition, perception, memory, imagination, conception, judgment and reason—not only all intellectual activity, but acts of volition are causes of those changes of mental state known as Emotion; and emotions in turn are causes of Desire. These two divisions of the acts of the sensibility are distinguished from one another by their *causes* and their *effects*.

EMOTIONS are those acts of the sensibility which are caused directly by acts of intellect or will and do not act as motives to volition, but are the causes of desire.

DESIRES are those acts of the sensibility which are caused by the emotions, and act directly on the will as motives to volition.

The emotions, and consequently the desires which are caused by them, are divided according to their causes into three classes, namely:

Physical, those caused by physical states;

Physio-Psychical, those caused by physical and intellectual states; and

Psychical, those caused by purely mental states.

The purpose of the Physical Emotions is the preservation and proper development of the body, by interesting the mind in its partner, making the comfort of one depend on the welfare of the other. They tend to regulate exertion and volition. They are subdivided into two classes, negative, (such as, weakness, weariness and discomfort), and positive, (such as, conscious strength or vitality and pain and pleasure). Pain is not a curse, but a blessing warning us of danger. The soul that can enjoy most, can suffer most.

The Creator has made this class of emotions *intense*, "to prevent the tireless, energetic, ambitious soul from prematurely wearing out and destroying the body. All experience proves that even cultivated minds cannot be safely trusted with the care of the body, unguarded by these faithful monitors." Then how carefully should the teacher note these signs of trouble, that divide and ought to divide the attention of his classes till given recreation and rest. And no student should work on while the body protests. No one has a moral right to trample underfoot the protest of his body, or the bodies of others.

The Physio-Psychical emotions are caused

by an intellectual apprehension of a physical state. They are not so intense, but more persistent than the first class. Of these emotions there are three pairs, cheerfulness and melancholy, interest and ennui, anxiety and indifference. These emotions are generally of physical origin, but sometimes are caused by purely intellectual or volitional acts. They re-act on the mind unfitting it for business, society, or study, limiting power and influence, or they make attractive, useful, and careful, those who were otherwise of indifferent ability. The third group of emotions is called Psychical. Their cause is purely mental. These emotions are characterized by intensity, depth, and energy; also by brevity. As a rule intense feelings are short lived. Of this group, there are six divisions, namely: 1. Wonder, surprise, admiration; these are caused by the strange, the unexpected, the unusual, the contradictory, etc. 2. Ludicrous, disgust, contempt; the purpose of these is to restrain men from, first, "The undignified, the incongruous, and the little; and second, the low, the mean, the vile, and the contemptible." 3. Shame, sorrow, pity; the causes of these may be our own acts, or states, or those of others. Their purpose is to exert a regenerating moral influence and stimulate to a purer life. 4. Fear, horror, despair; these have causes in conscious weakness, guilt, and danger. These emotions are much effected by physical states. They are intended to cause men to shun danger, wrong, and sin. 5. Beauty, sublimity, reverence; these emotions are caused by judgments of the relation of the causes of sensation, and the necessary ideas of the intuition. The end of these is

human happiness and perfection. 6. Moral approval and disapproval; these emotions are caused by an act of reason in which the mind compares the act of the will with the standard of right given in the primitive judgments, and concludes their agreement or disagreement.

The moral emotions are moved only in view of our own voluntary acts or those of our fellow men. No inanimate object and no act of even the most intelligent animal stirs them.

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LESSON XIV.

SENSIBILITY,—DESIRES.

A DESIRE is a demand for some gratification and is caused by the pleasure of emotion and is in turn a cause of or tendency toward volition. Desire is the basis of civilization and human advancement. Without it man would still be a savage, content to sit in his miserable abode and feed on carrion; yes, without it the race would cease to be. Out upon that silly affectation of effete social conditions which considers it "vulgar" to have an appetite. He only is strong whose body and will are underlaid with a volcano of controlled desires. And none of them, not even the acquired appetites or malevolent impulses, is without its place and part in our preservation and development; and *none* of them is wrong. They are God-implanted, as much as are arms or eyes. The wrong associated with them is not in the desire, but in

the gratification by wrong objects, and conditions out of harmony with the judgment. What more terrible thing can befall man, more surely heralding disease, or death, than the state portrayed in the last chapter of Ecclesiastes—that marvelous description of old age—where it is written that "desire shall fail." The desires, like the emotions, are of three kinds, Physical, Physio-Psychical, and Psychical, according to their causes.

The Physical desires are known as appetites. They are hunger, thirst, sexual passion, etc. Their essential characteristics are:

1. They are purely physical in origin.
2. They are occasional and not continuous.
3. They involve a sense of physical uneasiness.
4. Their gratification causes a degree of pleasure proportionate to the intensity of the appetite.
5. Gratification temporarily destroys appetite.
6. Continued abstinence weakens appetite.

Their purpose is the preservation and reproduction of the race, rather than, though along with, human happiness. In infancy they are instinctive, but in later life should be controlled by the will in accord with reason. They are of two kinds, natural and morbid. The acquired morbid appetites seem to be a balance wheel that prevents the jar of change of habits and tends to prevent the irregularity which seems more destructive than steady vice.

The Physio-Psychical desires, or propensities, are of two kinds, the selfish and the social.

The Selfish Propensities are self-love, self-

preservation, self-assertion, and self-gratification,—and curiosity, (desire of knowledge), acquisitiveness, (desire of possession), and ambition, (desire of power).

The Social Propensities are imitativeness, (desire to do like others), emulation, (desire to excel), approbativeness, (desire of esteem), and veracity, (love of truth).

None of these should rule the soul. None of these should be underrated. The two classes should be balanced. To fulfil the command, "Thou shalt love thy neighbor as thy self," do not strive to love self less, but your neighbor more. The command does not ask emasculation of your own nature. Religion does not ask destruction of our individuality, but development of it. There is not one of these desires whose absence will not wreck human life, and the rule of some of them is equally destructive. He who has no desire for knowledge, property, or power, will never be wise, rich, or influential, nor widely useful. He who does not care to excel will reach no high degree of excellence. He who does not desire the esteem of others has lost one of the strong stays of virtue, and powerful motives of exertion. He who loves not the truth has little that is hopeful in his mental or moral future.

The Psychical desires are known as affections and moral impulses.

The affections are malevolent and benevolent:

The malevolent affections are indifference, resentment, hatred, and envy. Their possible objects may be animals, men, or God. These affections are all disagreeable and wearing on health, nervous force, and intellectual

and moral character. The purpose of these affections is self-protection, and to promote justice by the punishment of crime.

The benevolent affections are such as wish well to others. They are divided by their objects into three classes:

1. Love of animals; 2. Love of men,— individuals, home, and country; 3. Love of God. These affections are stirred not so much by the objects as by our relations to them. We love animals because they are creatures of our Creator and are much like us. We love men because, "we be brethren," and have a common Father, God. We love God because he is good and "first loved us."

The Moral impulses are the stimuli of character. Woe to him in whom they are dead, in whom right and wrong are merely a judgment and an emotion, and in whom there is no wish to do the right, or shun the wrong; his character will scarcely outride life's storms of temptation. These impulses are characterized by persistence, but do not, like the lower desires, cease with gratification. God has so constituted us that, "The smiles of an approving conscience bring a peace and joy that are enduring."

The judgments, emotions, and desires of the human soul are unerring, infallible as to the moral character of our *motives* and *purposes*, but often fail as to our *acts*, being no more accurate than our intellectual development is perfect.

LESSON XV.

THE WILL.

The WILL is the mind's power of determination and self-activity; or it is the self-caused activity of the mind.

Much of human activity is involuntary like the breathing, the heart-beat, etc. Much even of intellectual activity arises instinctively and necessarily, and while, in most intellectual and sensible activity, the mind is passive, only reacting against the external cause, there is a realm where the mind is the ground and cause of its own acts. It is the realm of the will. The act of the will is free —not determined by externality, but by itself. We feel that it is free, and hold ourselves accountable for our determinations because, and only when, we feel that we could have done otherwise.

Here is the whole realm of morals. Our responsibility for our thought is limited to our sincerity of purpose to find the truth. Our responsibility for emotions and desires, to our will to control them. *No* act, unless it be freely chosen, has any moral character. No approbation or disapprobation of the conscience of an intelligent mind can fall upon any but chosen, purposeful acts. And it is the great business of life to subordinate the whole being to the will of an intelligent, cultured mind by constantly narrowing the realm of the instinctive and involuntary, and broadening the realm of the voluntary, the controllable. The will is the mainspring of all

power, intellectual and physical, and it is capable of almost unlimited development by rational exercise. Stubbornness is irrational determination.

Pupils will yield and obey with others more readily than alone. If avoidable, do not make demands of pupils under strong opposing emotions.

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LESSON XVI.

CONSCIOUSNESS AND ATTENTION.

CONSCIOUSNESS is mind in action;—or it is the condition of mental action. There is nothing gained by saying that it is the mind's power to know its own states, or acts, for that would require another consciousness to know that it knows its own states, and so on indefinitely. Neither is consciousness limited to knowing. Consciousness varies in degree from the slight activity of the faint dream state through the semi-conscious condition when body or mind has been over-worked, to the point where intellect, sensibility and will hasten from sensation through instantaneous conclusion and deep feeling to immediate and all absorbing action.

ATTENTION (of unspeakable import to the teacher) is voluntary consciousness;—or intellectual activity under the direction of the will. To hold and develop this power is success for the teacher. The attention of a child is ever changing from one object to another. To give continuous attention wearies it; therefore, develop instant, as the basis of

continued, attention. Attention begins with the pleasing, but must end when the most distasteful thing shall absorb us in needed consideration. Attention is much more intense in doing and investigating than in hearing.

Physical comfort is essential to attention; therefore, light, heat, ventilation, seating and change of position must be regarded in the school-room.

The teacher must *be* earnest, not shamming it. He may call the attention of a wanderer by a pause, a movement of hand, or head, or a glance of the eye, or a question directed to him. Questions should be stated to the *whole class*, not indicating to any pupil by look, gesture, or any means that he is to answer, till the question is stated. Do not repeat a question, nor wait for an answer. Concerted mental exercises in arithmetic, or other branches requiring *immediate* answer, are powerful stimuli of attention. Calisthenics also ranks high for this purpose. But above all things else *a good reason for it is the supreme motive for attention*, and attention is the basis of Sensation, Memory and Thought. Give the child a reason why he studies each subject; let him see its import. Create a motive.

LESSON XVII.

DEVELOPMENT.

For now we know in part.—*Paul.*

Education is development, not creation. What can be done by development depends on the material on which you begin. Men are not made in one generation. The individual character on which the teacher begins is both basis and limit of results. Culture can not make an oak of an ash, but can vastly hasten its growth and improve its form. So you need not fear destroying individuality. It should be remembered that the teacher cannot deal with the individuality of his pupils, but must deal with that which is common to all. His study must be of the concept mind, the subject of psychology, not the individual of which phrenology teaches(?).

The teacher must not expect to see realized in the child, the exact and diagrammed thought processes of psychology, which is the science of *ideal* mental activity; but must look forward to such processes as the goal of education. Mental development is slow. While we cannot investigate directly, and memory does not bring back the earliest thought, we may reasonably infer that the manner of early development is like the later, *from the indefinite to the definite.* The infant has sensation after sensation in which it is almost passive, barely noting the differences in them; then it strives to account for the differences, and pictures forth causes differing just enough to account for the few and often

trifling variations observed in sensation. But later sensations and experiences demand that we make causes to differ more, because our sensations are more varied and the varying elements are more noticed. For instance, a stove and a picture of a stove produce the same sensation to a child that does not touch them, but after the sense of touch has been exercised he accounts for the difference by perceiving two causes, one having colored surface, and one having weight, heat, body. Later the idea becomes more definite by seeing different stoves and by discovering differing internal constructions and purposes. The indefinite percept that would account for the sensations produced by a picture only, vanishes and is replaced by one having definite form, color, size, purpose, construction, etc.

Development is not *partial*, but *integral*. The common idea that in childhood the perceptive faculties first develop, then the reproductive, then the reason, is simply nonsense. The Will acts in the attention of every sensation; the Judgment, in every perception; the Sensibility, with every judgment. Mental powers never act separately, but always in combination. The mind is a unit. It is like a series of cog-wheels of which you can not move one without moving all.

An illustration of the activity of reason in early childhood is found in the following conversation of two girls, four and two years old. The older girl produced the following universal affirmation, "Everything is God's," and added, "I am God's girl." The younger replied, "I ain't God's girl. S'pose papa'd give me away?" The elder one replied, "Yes, you are." And the younger, neglecting to ar-

gue her case farther, proceeded to break the universal affirmative by an individual negative. She had a pair of small scissors in her hand and said, "These *scissors* ain't God's; Mrs. S. gave them to *me*."

The development of perception and reason are synchronous. Many never reach a point of systematic thought and reason; neither do they, of accurate perception. We never see or think more accurately or precisely than our purpose demands. *The purpose—the object in view*, is the primary element in determining development. For instance, one sees a house well enough to know it again; another well enough to know its value; another well enough to build like it.

The secondary element is the presence of the developed mind. He who thinks causes thought; he who feels produces feeling; he who wills, chooses, determines, moves others to volition by a process similar to electrical induction.*

Psychology, so far as the school teacher is concerned, is not studied to be taught nor merely or principally to be used as the key of method, but for a guide in personal culture. Then, if you think correctly, your pupils learn the same thought processes and get a concrete psychology.

Moral education must be by induction. The teacher must be an example of self-control, love of truth, justice and righteousness. He must love others as himself and the pupil will carry his spirit into his own life.

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*Induction is the peculiar power of bodies charged with electricity to reproduce their electrical state in bodies near to, but not in contact with them.

LESSON XVIII.

HABIT.

Holy habits give the place
With the noblest, best,
All most Godlike of thy race.—*Davis.*

"But it may be asked, does it depend merely on our will to correct and reform our bad habits? It certainly does not; neither does it depend on the will of a patient, who has despised the advice of a physician, to recover that health which has been lost by profligacy. When we have thrown a stone we cannot control its flight."

HABIT is a tendency of mind and body to repeat former acts. It might be called inertia of the soul. There are habits of thinking, feeling, walking, sitting, digesting, etc.

Habits of doing things in a particular way are created by doing them that way.

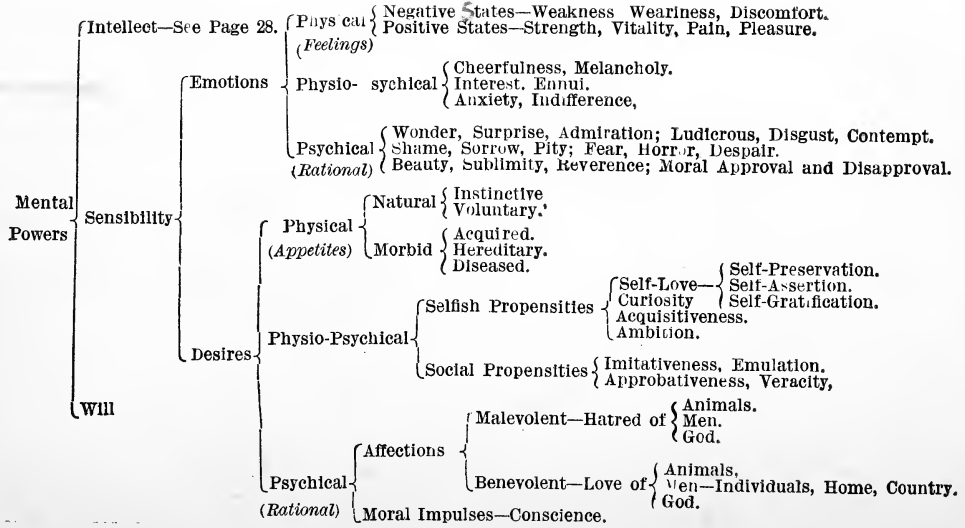
Habits, good or bad, are formed before we know right from wrong and parents and teachers should see that when a child comes to years of accountability it shall be with a bias toward doing right instead of a confirmed habit of wrong-doing to contend against. First acts are seldom purposeful and are performed before we have knowledge of their moral character.

We learn to do by doing not by being told or shown how nor by being scolded for not doing. Do things right; demand that your pupils do things right, for as we *do* so we *will do.*

The advantages of habit are speed, accuracy and ease. What is done slowly at first is done rapidly after much repetition. The power of addition so inaccurate in the beginner

becomes certain in the practical book-keeper. Not only so, but what at first requires great effort becomes automatic and can be done with little attention, exertion or weariness. By our acts we are forming habits now that will determine character, power and destiny.

But habit is not without its disadvantages. We cannot get along without the customary lines of travel called roads, but they tend to become ruts. He who never tries new ways never improves. Variation is essential to improvement. "Habit is not the pilot directing the vessel; it is the vessel abandoned to the force of the current, the influence of the tides and the control of the winds." We need all these forces and the pilot, a rational will, choosing among these mighty powers those that will help us to our desired haven and, if need be stemming the current and facing the tide.


Mental Powers
Intellect—See Page 28.
Sensibility
Emotions
Physical (Feelings)
Negative States—Weakness Weariness, Discomfort.
Positive States—Strength, Vitality, Pain, Pleasure.
Physio-Psychical
Cheerfulness, Melancholy.
Interest, Ennui.
Anxiety, Indifference,
Psychical (Rational)
Wonder, Surprise, Admiration; Ludicrous, Disgust, Contempt.
Shame, Sorrow, Pity; Fear, Horror, Despair.
Beauty, Sublimity, Reverence; Moral Approval and Disapproval.
Desires
Physical (Appetites)
Natural
Instinctive
Voluntary.
Morbid
Acquired.
Hereditary.
Diseased.
Physio-Psychical
Selfish Propensities
Self-Love—
Self-Preservation.
Self-Assertion.
Self-Gratification.
Curiosity
Acquisitiveness.
Ambition.
Social Propensities
Imitativeness, Emulation.
Approbativeness, Veracity,
Psychical (Rational)
Affections
Malevolent—Hatred of
Animals.
Men.
God.
Benevolent—Love of
Animals.
Men—Individuals, Home, Country.
God.
Moral Impulses—Conscience.
Will

VOCABULARY.

This vocabulary is added because numbers of philosophical terms are used in the text without definition and are used with meanings more limited than those in daily use. It has been the purpose of the author to use words in their most definite and consequently narrow meaning in order to avoid ambiguity and consequent confusion of thought.

Psychology has suffered and been almost lost in discussions over ambiguities by having no exact nomenclature like chemistry, but only a specialized use of common terms.

It is believed the definitions of the text will be more clear for comparison with those below, some of which are varied statements of those in the body of the work, some represent the use and views of other authors and some are the every day uses of the terms.

ABSTRACT—ABSTRACTION.—(From *abs* and *traho*, to draw away from.) Lesson VII.

To separate mentally.

The power of considering certain qualities or attributes of an object apart from the rest.—*Stewart.*

Much used as the opposite of concrete.

An abstract name is the name of an attribute. A concrete name belongs to an object.

"Abstract ideas," Lesson II, are ideas of relations, qualities, etc. which have no inde-

pendent existence, but result from a mental separation or analysis.

All concepts are abstract.

ACT—ACTION.—To do; deed: to will; to cause.

The exercise of a power or property.

Act does not necessarily imply a result: action does.

Our acts originate in our wills.

Attributes and qualities are simply modes of action upon our senses.

ANALOGY.—(Gr. *ana logia*, proportionate.) Lesson X. Similarity of relations rather than of things.

Analogy refers to *causes*; resemblance to *appearances*.

Likeness is between two *things;* analogy between two *relations*. Two similar relations can exist only between three or more things.

Law of analogy.—The same attributes may be assigned to distinct, but similar things, provided, they can be shown to accompany the points of resemblance in the things and not the points of difference.

ATTENTION.—(*attendo*, to reach or stretch toward.) Lesson XVI.

"The voluntary directing of the energy of the mind towards an object or act."

"Attention to external things is *observation*. Attention to the subjects of our own consciousness is *reflection*.

ATTRIBUTE.—(*attribuo*, to ascribe.) Quality; power. A power to act in a certain way or produce a certain result.

BEING.—Cause; substance; existence. That which acts.

BELIEVE—BELIEF.—Assent; conviction; certainty; faith.

Belief admits of degrees of certainty.

As used in psychology it has no reference to what is believed.

CAUSE.—A relation, which see.

That which produces change.

The *efficient* cause is the principle of change or motion.

The *final* cause is the purpose for which anything exists or acts.

"The general idea of cause is that without which another thing called the effect cannot be."

COGNITION.—Knowing; perceiving.

COMPARISON.—(to place together.) Lesson. VII. Knowledge of externals begins in comparison of sensations, (see Lesson XVII); is increased by comparison of percepts resulting in the concept. Comparison of these forms the judgment and comparison of judgments is reasoning—the highest act of the intellect—the perfection of perception.

CONCEIVE.—(*con* and *capere*, to take together.)

Commonly used as a synonym of imagine, think, suppose and believe, but in psychology it means to form a concept.

CONCEPT—CONCEPTION.—Lesson VII. A group of attributes common to two or more individuals or percepts.

CONCLUSION.—The result of reason or argument. That which is inferred from the premises.

CONCRETE.—(*con-cresco*, to grow together). Undivided; real; as it exists in nature. See abstract.

CONSCIENCE.—(*con* and *scio*, to know together).

Our judgment of the harmony or discord

between our ideas of right and wrong and our motives, purposes and intentions, together with our consequent emotions of approval or disapproval.

CONSCIOUS.—Awake; knowing; mentally active.

CONSCIOUSNESS.—State of activity. Lesson XVI. Self-consciousness is a knowledge of our mental nature, acts and states.

CONSEQUENT.—That which follows as a result or effect.

DEDUCTION.—(*deduco*, to draw from; to bring out of). Lesson X. Drawing a particular conclusion from a general truth.

DESIRE.—Wish; longing; craving; passion; love; etc. A stimulus to volition and action. Lesson XIV.

EFFECT.—The result or consequent of a cause. The cause produces change; that upon which it operates determines its nature; viz: note the different effects of the one cause, heat, on ice, water and powder.

EMOTIONS.—Lesson XIII. A form of feeling; a class of acts of the sensibility, caused by knowledge, but not directly affecting the will.

ENTITY.—Being; that which acts; the cause and object of sensation and thought.

FACULTY.—Power to do certain things. Faculties and powers are not divisions of the mind, but possibilities for the mind.

FALLACY.—Lesson XI. An argument having an unjustifiable conclusion.

FEELING.—The sense of touch.

FEELINGS.—Acts of the sensibility; emotions and desires. Sometimes used as the equivalent of sensation.

FAITH.—Lesson X. Believing on evidence

hings not revealed to sense; the act of inferring; the power to accept the conclusion drawn from the premises. Distinguish from credulity and from what is believed.

FORCE.—That which produces change.

GENERALIZATION.—Lesson VII. Grouping similars; using the common results of abstraction to represent the individuals forming the class.

HABIT.—Lesson XVIII. Thurot calls habit, "the memory of the organs."

IDEA.—Image; percept; notion; concept; thought; belief; doctrine; opinion.

A word used to represent almost every act or product of the intellect. Often defined as a mental picture.

Best used as the representative of mental products without distinction between them.

IMAGINATION.—Lesson VI. The power to reproduce the elements of former experience in new relations.

INDUCTION.—(to lead to.) Lesson X. To conclude from the individual cases the general law.

INSTINCT.—A propensity prior to experience.—*Paley.*

A low grade of reason.

INTELLECT.—Lesson I. Understanding; power of knowledge and thought.

INTUITION.—(*intueor*, to behold.) Lesson II. The power to know relations as distinguished from things.

Formerly used to represent perceptions *a priori* (previous to sensation) or what is sometimes called innate ideas.

JUDGMENT.—Lesson VIII. When expressed in words it is called a proposition.

"Good judgment" is the power to draw

correct conclusions after comparing facts and evidences.

KNOW—KNOWLEDGE.—To be certain; to be satisfied beyond doubt.

Firm belief on sufficient grounds.

Knowledge supposes a mind, an object and a definite relation between them.

Knowledge is a general term for the result of the various intellectual activities.

MEMORY.—Lesson IV. It implies an intellectual act, the power to reproduce it, and a judgment of identity of the two acts. The power to reproduce is the distinctive feature.

MIND.—Lesson I. That which moves.

Mind is generic; soul, individual.

Mind is opposed to matter; soul, to body.

Mind is the source of volition; soul of life.

PERCEIVE—PERCEPTION.—To take knowledge of through the senses; to observe. Lesson III. Apprehension; apperception.

PREMISE.—The two propositions which afford the ground for the conclusion.

PSYCHOLOGY.—(Gr. *psuche*, the soul, *logos*, a discourse.) Lesson I.

REASON.—(*ratio*, to think.) It is used to signify: 1. The intellectual powers. 2. The intellectual powers that distinguish men from brutes. 3. The power to reason. 4. The premises of an argument. 5. A cause.

RELATION.—The possibility of one things acting upon another.

Prepositions express relations.

Cause is expressed by *by*, *because*, *for*, *etc;*

Time by *before* and *after;*

Space by *here*, *there*, *above*, *below*, *etc;*

Other parts of speech also express relations, as, *true*, *beautiful*, *good*, *etc.*

SENSATION.—Lesson II. An act of feeling

and attention resulting from changes in an organ of sense. Distinguish from sensational.

SENSIBILITY.—Lesson I. Capacity for emotion and desire.

SPACE.—Lesson II. Not an entity, but a relation, which see. An act or product of the the intuition. Psychologically considered it is an abstraction, but it does not originate primarily by abstraction.

SYLLOGISM.—Lesson IX. "The moulds of reason." The ideal form of argument.

THINK—THOUGHT.—To use the higher intellectual powers; reason; reflection; meditation.

TIME.—Another class of relations. (See space and relation.)

TRUTH.—The sufficiency of our percepts to account for our sensations and the sufficiency of the limitations of our higher intellections to correspond as effects to our perceptions.

UNDERSTANDING.—Intellect; reason.

VOLITION.—Choice; power to act; the will.

WILL.—Lesson XV. Power to choose, act and determine.

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